

## In the Specification

Please amend the Abstract of the Disclosure as follows:

--A method encodes a ~~video~~ a video as video objects. For each candidate object, a quantizer parameter and a skip parameter that jointly minimizes an average total distortion in the video are determined while satisfying predetermined constraints. The average total distortion includes spatial distortion of coded objects and spatial and temporal distortion of uncoded objects. Then, the candidate objects is encoded as the coded objects with the quantizer parameter and the skip parameter, and the candidate objects is skipped as the uncoded objects with the skip parameter.--

Please amend the paragraph beginning at page 1, line 2 as follows:

This Patent Application is related to U.S. Patent Application Sn., ~~09/xxx,xxx~~  
09/835,650, "ESTIMATING TOTAL AVERAGE DISTORTION IN A VIDEO  
WITH VARIABLE FRAMESKIP," filed by Vetro et al. on ~~xxxx~~ April 16, 2001,  
now U.S. Patent 6,671,324.

Please amend the paragraph beginning at page 4, line 11 as follows:

-- More particularly, a method encodes a ~~video~~ a video as video objects. For each ~~candidate~~ candidate object, a quantizer parameter and a skip parameter that jointly minimizes an average total distortion in the video are determined while satisfying predetermined constraints. The average total distortion includes spatial distortion of coded objects and spatial and temporal distortion of uncoded objects. Then, the candidate objects is encoded as the coded objects with the quantizer parameter and

the skip parameter, and the candidate objects is skipped as the uncoded objects with the skip parameter.--

Please amend the paragraph beginning at page 5, line 17 as follows:

-- As shown in Figure 1, our invention provides a method 100 for coding a video 101. Moreover, the video 101 is coded with a variable temporal rate for Video Object Planes (VOP's), or simply with variable VOP-rates.. Our method determines 110 a quantizer parameter ( $Q$ ) 111 for each object, and also determines 120 a VOP-skip parameter, or simply skip parameter ( $f_s$ ) 121. The quantizer and VOP-rate parameters jointly minimize 130 an average total spatial distortion 131 and a temporal distortion 132 in the video, while satisfying predetermined constraints 133. Then, the object is encoded 141 as a coded object 152 with the quantizer parameter 111 and the VOP-rate parameter 121, or skipped 142 as an uncoded object 153 with only the skip parameter 121 parameter to minimize the average distortion while satisfying the constraints 133. According to the skip parameter 121, a ~~coded object 151~~ object 152 at a given time instant is encoded 141 with quantization parameter 111. During this process,  $(f_s - 1)$  uncoded objects 153 are skipped 142.--

Please amend the paragraph beginning at page 11, line 17 as follows:

--The model in equation 9 is accurate for low to moderate motion sequences, This is sufficient because an optimized coder would not need such an accurate model when the motion is high, see U.S. Patent Application Sn., 09/xxx,xxx 09/835,650, “ESTIMATING TOTAL AVERAGE DISTORTION IN A VIDEO WITH

VARIABLE FRAMESKIP," filed by Vetro et al. on ~~xxxx~~ April 16, 2001, now  
U.S. Patent 6,671,324, and incorporated herein in its entirety by reference.--

Please amend the paragraph beginning at page 14, line 15 as follows:

-- In step 340, we determine if the quantizer parameter 111 and skip parameter 121 still satisfies bit-rate and buffer constraints. If false, then ~~increment 344 increment~~  
351 the parameter long as the new  $f_s \leq \min\{f_i + \delta, f_{\max}\}$  because the current value of  $f_s$  is no longer valid, and iterate the previous steps.--

Please amend the paragraph beginning at page 14, line 22 as follows:

-- Otherwise, if true, in step 360, we determine if the current distortion is less than  $D_{min}$ . If false, we proceed with ~~step 341 step 351~~ as described above. If true, replace  $D_{min}$  with the current distortion and record 370 the encoding ~~parameters~~  $f_s$  111 and  ~~$Q_{i+f_s}$  121 parameters~~  $f_s$  121 and  ~~$Q_{i+f_s}$  111~~ for this given coding time instant.

It should be noted that the parameter  $\delta$  is used to limit the frame-rate from one coded frame to another, similar to the known bounding of the quantizer parameter 111.--